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EXAMINER

RYMAN, DANIEL J

ART UNIT PAPER NUMBER

2665

DATE MAILED: 09/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/927,708

Applicant(s)

EATOUGH ET AL

Examiner

Daniel J. Ryman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. There is no Fig. 9 in the application. Therefore, the drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include any of the reference sign(s) pertaining to Fig. 9. See paragraphs 36-44. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

2. The disclosure is objected to because of the following informalities: in paragraph 19, line 2 "Include comment . . . forwarding traffic" should be deleted and in paragraph 25, lines 2-3 "subnet representative receives a discovery message is received" should be "subnet representative receives a discovery message".

Appropriate correction is required.

3. Examiner requests that Applicant update the application information seen in paragraph 1.
4. Examiner also requests that Applicant include a "Summary of Invention" section.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-14 and 21-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Novaes (USPN 6,735,200).

7. Regarding claim 1, Novaes discloses a method comprising: dynamically discovering a set of subnets (searching for SLs), the set of subnets having visibility of a transmission (transmission of master list) (col. 12, lines 33-60); and selecting a network element (NL) to perform the transmission, the network element being in one of the set of subnets (col. 12, lines 33-60).

8. Regarding claim 2, Novaes discloses that the selecting the network element comprises: ordering a set of network addresses (col. 12, lines 50-60); and selecting one of the set of network addresses, the one corresponding to the network element (col. 12, lines 50-60).

9. Regarding claim 3, Novaes discloses that the selecting the network element comprises: indicating a preference value (weight) for at least one network element in each of the set of subnets (col. 14, lines 8-47); and determining the network element to have the preference value most desired in the set of subnets (col. 14, lines 8-47).

10. Regarding claim 4, Novaes discloses that the selecting the network element comprises determining the network element to have a set of data to be transmitted for the transmission (col.

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12, lines 33-60) where “comprises” allows for other selecting steps where the network element can only be an SL (not a BL) where the SL has a set of data that will be part of the master list.

11. Regarding claim 5, Novaes discloses maintaining a state of the transmission (master list) for each member of each of the set of subnets (col. 6, lines 31-34 and col. 6, lines 40-43).

12. Regarding claim 6, Novaes discloses dynamically establishing a set of subnets as a domain (group) (col. 6, lines 40-43 and col. 12, lines 33-60); selecting a network element (network leader) to transmit a set of data to the domain (col. 12, lines 33-60); and maintaining a status of transmission (col. 6, lines 31-34 and col. 6, lines 40-43) where the master list is a list of which nodes are connected to a group, such that the master list has a status of the transmission by indicating which nodes will receive the transmission.

13. Regarding claim 7, Novaes discloses that the selecting the network element comprises: ordering a set of network addresses (col. 12, lines 50-60); and selecting one of the set of network addresses, the one corresponding to the network element (col. 12, lines 50-60).

14. Regarding claim 8, Novaes discloses that the selecting the network element comprises: indicating a preference value (weight) for at least one network element in each of the set of subnets (col. 14, lines 8-47); and determining the network element to have the preference value most desired in the set of subnets (col. 14, lines 8-47).

15. Regarding claim 9, Novaes discloses that the selecting the network element comprises determining the network element to have a set of data to be transmitted for the transmission (col. 12, lines 33-60) where “comprises” allows for other selecting steps and where the network element can only be an SL (not a BL) where the SL has a set of data that will be part of the master list.

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16. Regarding claim 10, Novaes discloses determining the status of transmission for at least one target in the domain to be incomplete (col. 10, lines 32-34) where the master list is a list of which nodes are connected to a group, such that the master list has a status of the transmission by indicating which nodes will receive the transmission; and selecting a second network element (another SL node) to complete transmitting to the at least one target, the second network element having the set of data locally (col. 10, lines 28-40) where each SL node receives the master list.

17. Regarding claim 11, Novaes discloses a method comprising: transmitting a discovery message to each of a number of representatives of subnets in a network (searching for SLs from other subnetworks) (col. 12, lines 33-60); receiving responses to the discovery messages from each of the number of representatives of the subnets (col. 12, lines 33-60); creating a number of alias domains (group) in the network based on the responses to the discovery messages (col. 6, lines 40-43 and col. 12, lines 33-60) where the number can be one; for each alias domain in the network, assigning one of the number of representatives of the subnets whose subnet is part of the alias domain as the domain representative (NL) (col. 12, lines 33-60).

18. Regarding claim 12, Novaes discloses that assigning one of the number of representatives of the subnets whose subnet is part of the alias domain as the domain representative comprises: ordering a set of network addresses (col. 12, lines 50-60); and selecting one of the set of network addresses, the one of the set of network addresses corresponding to the one of the number of representatives of the subnets (col. 12, lines 50-60).

19. Regarding claim 13, Novaes discloses that assigning one of the number of representatives of the subnets whose subnet is part of the alias domain as the domain representative comprises: indicating a preference value (weight) for each of the number of representatives (col. 14, lines 8-

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47); and determining the one of the number of subnet representatives to have the preference value most desired of the number of representatives (col. 14, lines 8-47).

20. Regarding claim 14, Novaes discloses that assigning one of the number of representatives of the subnets whose subnet is part of the alias domain as the domain representative includes: determining one of the number of representatives of the subnets to have a set of data to be transmitted for the transmission (col. 12, lines 33-60) where “includes” allows for other selecting steps and where the network element must have a set of data to transmitted since the network element can only be an SL (not a BL) where the SL has a set of data that will be part of the master list.

21. Regarding claim 21, Novaes discloses a machine-readable medium that provides instructions, which when executed by a set of processors, cause said set of processors to perform operations comprising: determining a set (group) of subnets to receive a set of data (col. 12, lines 33-60); dynamically establishing the set of subnets as a domain (group) (col. 12, lines 33-60); selecting a representative (NL) for the domain (col. 12, lines 33-60); and indicating to the representative to transmit the set of data (col. 12, lines 33-60).

22. Regarding claim 22, Novaes discloses that the selecting the representative comprises: ordering a set of network addresses (col. 12, lines 50-60); and selecting one of the set of network addresses, the one corresponding to the representative (col. 12, lines 50-60).

23. Regarding claim 23, Novaes discloses that the selecting the representative comprises: indicating a preference value (weight) for at least one network element in each of the set of subnets (col. 14, lines 8-47); and determining the representative to have the preference value most desired in the set of subnets (col. 14, lines 8-47).

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24. Regarding claim 24, Novaes discloses that the selecting the representative comprises determining the representative to have the set of data to be transmitted for the transmission (col. 12, lines 33-60) where “comprises” allows for other steps and where the network element can only be an SL (not a BL) where the SL has the set of data that will be part of the master list.

25. Regarding claim 25, Novaes discloses providing instructions, which when executed by the set of processors, cause said set of processors to perform operations further comprising maintaining a status of transmission (master list) of the set of data (col. 6, lines 31-34 and col. 6, lines 40-43) where the master list is a list of which nodes are connected to a group, such that the master list has a status of the transmission by indicating which nodes will receive the transmission.

26. Regarding claim 26, Novaes discloses providing instructions, which when executed by the set of processors, cause said set of processors to perform operations further comprising: determining the status of transmission to be incomplete (col. 10, lines 32-34); and selecting a second representative (another SL node) to complete transmission of the set of data (col. 10, lines 28-40) where each SL node receives the master list.

27. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

28. Claims 15, 17, 19, 20, and 27-29 are rejected under 35 U.S.C. 102(a) as being anticipated by Harvey et al. (USPN 6,189,039).



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29. Regarding claim 15, Harvey discloses a system comprising: a server to dynamically establish a domain (multicast area) from a first and second subnet, to select a representative (repeater receiver application) for the domain, and to delegate a transmission of a set of data to the representative (col. 3, lines 9-44 and col. 4, line 60-col. 6, lines 17) where “select” is broadly defined as allowing the repeater to join the multicast connection; a first network element (repeater receiver application) connected to the server, the first network element having been selected as the representative to transmit the set of data (data stream) to a set of targets (clients subscribing to re-broadcast stream) in the domain, and to maintain a status of the transmission (col. 6, lines 1-17 and col. 6, lines 24-28); and a second network element (Fig. 1: router) connected to the server and the first network element, the second network element to forward data between the first and second subnet (col. 3, lines 9-25).

30. Regarding claim 17 Harvey implicitly discloses that the server to select the representative comprises the server to determine the first network element to have the set of data (col. 6, lines 1-17) where the representative is a node which is capable of receiving a data stream and then retransmitting this data stream, such that the representative must “have the set of data” in order to retransmit the stream.

31. Regarding claim 19, Harvey implicitly discloses that the server maintains a status of the transmission (col. 1, lines 25-27) where “register” implies that the server maintains a status.

32. Regarding claim 20, Harvey implicitly discloses that the first network element comprises a domain cache to indicate an alias domain (re-broadcast multicast domain) corresponding to the domain (multicast domain) (col. 6, lines 24-28).

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33. Regarding claim 27, Harvey discloses a machine-readable medium that provides instructions, which when executed by a machine, cause said machine to perform operations comprising: receiving a first message (request for data stream) indicating a transmission job (col. 5, lines 22-29); determining if the machine is in a domain for the transmission job (determining if the machine can receive multicast transmission) (col. 5, lines 29-49); if the machine is not in the domain for the transmission job (machine cannot receive multicast transmission), then transmitting a second message (request for unicast) indicating the machine's subnet (request contains IP address which will indicate the machine's subnet) (col. 5, lines 50-67); and if the machine is in the domain for the transmission job, then transmitting the second message indicating the domain (register with the network) (col. 1, lines 23-27 and col. 5, lines 40-49).

34. Regarding claim 28, Harvey discloses providing instructions, which when executed by the machine, cause said machine to perform operations further comprising: receiving an indication of a source (received IP unicast data stream) of a set of data for the transmission job (col. 6, lines 1-6 and col. 6, lines 14-17); accessing the set of data (col. 6, lines 1-6 and col. 6, lines 14-17); receiving an indication of a set of targets (members of the rebroadcast multicast data stream) for the set of data (col. 6, lines 1-6; col. 6, lines 14-17; and col. 6, lines 24-28); notifying the targets of the transmission job (col. 6, lines 1-6 and col. 6, lines 14-17); transmitting the set of data to the set of targets (col. 6, lines 1-6 and col. 6, lines 14-17); and transmitting an indication of a status of the transmission job to a server (col. 5, lines 54-67) where a receiver application will notify the server if the connection has failed, etc.

35. Regarding claim 29, Harvey discloses providing instructions, which when executed by the machine, cause said machine to perform operations further comprising: receiving a

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notification of the transmission job (presence or absence of data stream) (col. 5, lines 40-49); determining if the machine is one of a set of targets for the transmission job (col. 5, lines 40-49) where it is implicit that the machine will determine if the data stream is the correct data stream; listening for a set of data of the transmission job (col. 5, lines 40-49); and notifying a network element when the set of data has been received, the network element transmitting the set of data (col. 5, lines 40-49) where the receiver will signal to the server when the data stream has not been received such that the absence of such a signal notifies the server that the stream has been received.

***Claim Rejections - 35 USC § 103***

36. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

37. Claims 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Harvey et al. (USPN 6,189,039) as applied to claim 15 above, and further in view of Novaes (USPN 6,735,200).

38. Regarding claim 16, Harvey does not expressly disclose that the server selects the representative comprises the server to order a set of network addresses, the set of network addresses corresponding to a set of network elements in the first and second subnet, and selects one of the set of network addresses. Novaes teaches, in a multicast system, that selecting the representative comprises having a node order a set of network addresses (col. 9, lines 6-18 and col. 12, lines 50-60), the set of network addresses corresponding to a set of network elements in

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the first and second subnet (col. 12, lines 50-60), and selecting one of the set of network addresses (col. 9, lines 6-18 and col. 12, lines 50-60) in order to have a fault tolerant system (col. 1, lines 27-34). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have the server select the representative comprises the server to order a set of network addresses, the set of network addresses corresponding to a set of network elements in the first and second subnet, and select one of the set of network addresses in order to have a fault tolerant system.

39. Regarding claim 18, Harvey does not expressly disclose a third network element to resume transmission of the set of data if the first network element fails to complete the transmission of the set of data, the third network element being in the domain and having the set of data locally. Novaes teaches, in a multicast system having a third network element resume transmission of the set of data if the first network element fails to complete the transmission of the set of data, the third network element being in the domain and having the set of data locally (col. 8, lines 12-17 and col. 12, lines 50-64) in order to have a fault tolerant system (col. 1, lines 27-34). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to have a third network element resume transmission of the set of data if the first network element fails to complete the transmission of the set of data, the third network element being in the domain and having the set of data locally in order to have a fault tolerant system.

40. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Harvey et al. (USPN 6,189,039) as applied to claim 27 above, and further in view of Karol et al. (USPN 6,122,275).

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41. Regarding claim 30, Harvey discloses receiving a set of data of the transmission job (col. 5, line 22-col. 6, line 17). Harvey does not expressly disclose providing instructions, which when executed by the machine, cause said machine to perform operations further comprising: indicating to a transmitting network element to modify a rate the set of data is being transferred if the rate is too slow or too fast for the machine; and indicating to the transmitting network element to retransmit a subset of the set of data if the subset was missed. Karol teaches, in a packet communication system, indicating to a transmitting network element to modify a rate the set of data is being transferred if the rate is too slow or too fast (col. 8, line 50-col. 9, line 6); and indicating to the transmitting network element to retransmit a subset of the set of data if the subset was missed (col. 8, line 50-col. 9, line 6) where it is implicit that this is done in order to ensure proper delivery of information. It would have been obvious to one of ordinary skill in the art at the time of the invention to indicate to a transmitting network element to modify a rate the set of data is being transferred if the rate is too slow or too fast for the machine; and to indicate to the transmitting network element to retransmit a subset of the set of data if the subset was missed in order to ensure proper delivery of information.

### *Conclusion*

42. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Nurenberg et al. (USPN 6,181,697) see entire document which pertains to unicasting a datastream to allow a client to access a multicast network. Roy et al. (USPN 6,496,859) see entire document which pertains to device discovery.

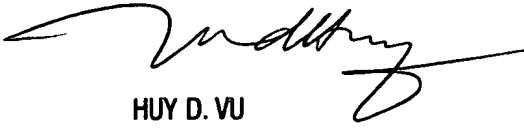
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (571)272-3152. The examiner can normally be reached on Mon.-Fri. 7:00-4:30 with every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DJR  
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